

NORTH CAROLINA

Assessing the Knowledge and Attitudes of Coastal Communities—2001 to 2003

This project surveys coastal residents and coastal decision-makers to determine their attitudes toward their natural environment and their understanding of the coastal area's basic nature and processes. The goal of the project is to provide an empirical foundation that allows coastal decision makers to assess the degree to which officials, people who influence coastal policy, and the general public share common attitudes and beliefs concerning important coastal issues.

Beach Nourishment on the Atlantic and Gulf Coasts of the U.S.—2002, 2003

This project helps state and local governments along the Atlantic and Gulf coasts of the U.S. make informed decisions about the nourishment of beaches by consolidating the best scientific and technical information and tools for evaluating and understanding beach nourishment into one source. This resource is a user-friendly Web site that includes relevant information and tools from the fields of coastal geology, engineering, economics, law and policy, and the biological sciences.

Bogue Sound, Benthic Data—2002

The Center mapped submerged aquatic vegetation using 1992 aerial photography for the Bogue Sound area.

Coastal Management Fellowship—1999 to 2001

www.csc.noaa.gov/cms/99_fellows.html

A Coastal Management Fellow worked with the North Carolina Division of Coastal Management on a project entitled "The Development of Coastal Wetland Mitigation Policy and Wetland Management Alternatives." The project goal was to develop alternatives and recommendations that clarify and improve the division's wetland mitigation policies. A second goal of the project was to develop wetland policy and management alternatives for the Atlantic White Cedar component of the Buckridge Coastal Reserve site. The fellow contributed to the formulation and adoption of clear wetland mitigation policies that improve the protection of wetland resources and contribute to the development of a final restoration plan in the Buckridge Coastal Reserve.

Coastal Management Fellowship—2002 to 2004

www.csc.noaa.gov/cms/fellows/02_fellows.html

A Coastal Management Fellow is working with the North Carolina Department of Natural Resources, Division of Coastal Management (DCM), on a project entitled "GIS Based Evaluation of Inlet Process Impacts on Oceanfront Shorelines, Transportation Infrastructure and Other Development Activities." The goal of this project is to delineate new inlet hazard areas of environmental concern (AEC) boundaries, both for existing inlets and potential new inlet areas. This will be accomplished by characterizing the nature, magnitude, location, and timing of inlet processes that represent a hazard to development activities, particularly transportation-related activities. By developing and analyzing GIS shoreline data sets from existing shoreline data, the project will develop alternatives and policy recommendations that will expand and update DCM's existing inlet hazard AEC policies.

Coastal Ocean Habitat Project—1996

www.csc.noaa.gov/products/gulfmex/startup.htm

The Coastal Ocean Habitat Project generated Center data products that utilized satellite observations of U.S. coastal waters. A CD-ROM of retrospective satellite sea-surface temperature images for the southeastern U.S. was produced in 1996.

Community Vulnerability Assessment Tool—1998, 1999

www.csc.noaa.gov/products/nchaz/startup.htm

This CD-ROM is an informational aid designed to assist communities in their efforts to reduce hazard vulnerability. Before communities can develop effective hazard mitigation strategies, they must first identify their hazard risks and assess their vulnerability to the impacts of those hazards. This CD-ROM includes a newly developed methodology for conducting a community-wide vulnerability assessment and features New Hanover County, North Carolina, in a case study. The

methodology employs geographic information system (GIS) technology as a valuable resource for conducting hazards-related analysis. A major feature of this product is a section focusing on the use of spatial data for hazards planning.

Core Sound, Benthic Data—1990

www.csc.noaa.gov/crs/bhm/nc.html

The National Marine Fisheries Service–Beaufort Laboratory and North Carolina State University tested a variety of methods for submerged aquatic vegetation (SAV) detection and mapping using imagery from 1985, 1988, and 1990. Ongoing SAV mapping and change detection projects in Core Sound contribute to restoration and environmental modeling work in the area.

Creating a Land Suitability Analysis Tool for Local Government Land-Use Planning—2000 to 2003

www.csc.noaa.gov/funding/PastAwards1.html

The goals of this project were to design an interactive ArcView pilot program for conducting land suitability analysis in local government land-use planning, to build capacity of local governments, and to put into action the recommendations of the North Carolina Coastal Area Management Act Land Use Planning Review Team. This project was funded with a special project grant from the Center.

Enhanced Flood Warning System, North Carolina Pilot—2002, 2003

The goal of this project is to develop a real-time flood forecast mapping capability in North Carolina. The mapping capability is being developed initially for the Tar River Basin, an area that experienced catastrophic flood damages during Hurricane Floyd. This project is a partnership between the State of North Carolina, National Weather Service, and the Center.

Estuarine Habitat Project—1998 to 2001

www.csc.noaa.gov/crs/ehab/

The Estuarine Habitat project investigated remote sensing and modeling approaches for studying oceanic and terrestrial processes. This project focused on building new, useful methodologies and applications to aid coastal managers in assessing estuarine habitat quality.

Lessons Learned Regarding the Use of Spatial Data and GIS during Hurricane Floyd—2001

www.csc.noaa.gov/hfloyd/

During and after Hurricane Floyd, the NOAA Coastal Services Center worked with local, state, and federal coastal resource managers and emergency preparedness officials to document spatial data and information needs and uses. The resulting document is a best practices manual filled with information that can be of use to all coastal communities.

Natural Hazards Risk Assessment Tool Development: Storm Surge Model—2000 to 2002

This goal of this project is to design and develop a prototype risk assessment tool based on the North Carolina State University Coastal Marine Environment Prediction System (CMEPS). CMEPS contains a suite of interactively linked atmospheric and oceanic model components that provide a coastal and inland waterway surge model that not only predicts general surge effects, but also event-related inland flooding. The project also includes a training component to enable private- and public-sector end users to apply the product.

Needs Assessment Training—2001

North Carolina National Estuarine Research Reserve (NERR) served as a local host for a workshop entitled “How to Conduct a Training Needs Assessment.” Participants in the two-day training included staff from NERR sites, the state coastal management program, state parks, museums, aquariums, and nonprofit organizations. The goals of the training were to familiarize participants with terminology, tools, and methods, and to help them understand how and when to use needs assessments.

North Carolina Land Cover and Change Data—2000

www.csc.noaa.gov/crs/lca/n_car.html

This project mapped terrestrial land cover in coastal watershed environments and identified changes in these areas that occurred between 1991 and 1997. The project relied on satellite multispectral imagery as the primary information source. These data were used to distinguish major land cover classes, and previous images were studied to locate areas that changed over time. For this project, the data were acquired according to the Center's Coastal Change Analysis Program (C-CAP) methods.

Ocean Color Applications Project—1996 to 2000

Through this project, processing and classification techniques were developed to evaluate coastal water quality and biological and geologic variables based on remote sensing data from satellite or aircraft. Data on the bio-optical characteristics of diverse U.S. coastal waters were collected. These data are used to validate satellite measurements used for ocean color data products.

Ocean Planning Information System (OPIS)—1997 to 2003

www.csc.noaa.gov/opis/

OPIS is the first system to provide the coastal management community in the southeastern U.S. with access to regional georeferenced spatial data and legal information. Major features of the OPIS Web site include an interactive mapping application, marine and coastal spatial data, data and metadata download tools, Federal Geographic Data Committee (FGDC)-compliant metadata, and legislative summary pages, all designed to support regional ocean management. In 2001, OPIS received a Hammer Award, a vice-presidential acknowledgment of projects and people that help government operate more efficiently and effectively.

Pre-Natural Disaster Mitigation Technology Transfer and Deployment—2000

Initial activities under this project include a workshop on the deployment of established and new technologies to lower the impacts and costs of natural hazards, and the development of a regional strategy to coordinate with federal efforts. This project is funded with a special project grant from the NOAA Coastal Services Center to the Southeast Center for Protection Against Natural Disasters (Southeast CPAND).

Protected Areas GIS (PAGIS)

www.csc.noaa.gov/pagis/

The PAGIS project brought compatible geographic information systems (GIS), geographic data management, and Internet capabilities to each of the nation's 25 Estuarine Research Reserves and 13 Marine Sanctuaries. Through PAGIS, the reserves and sanctuaries also developed advanced data sets, underwent extensive training, and found innovative ways to make the most effective use of their new data and technological capabilities.

Shoreline Data Rescue—1997 to 2001

www.csc.noaa.gov/products/shorelines/

GIS-compatible shoreline data sets that include high-resolution contemporary and historic shorelines are available from the Center's Web site. The source of the historic shoreline data is NOAA t-sheet charts dating from the 1800s. This information is most frequently used to measure shoreline change.

Social and Environmental Change in Coastal North Carolina—2002, 2003

The focus of this project is to develop a descriptive handbook and CD-ROM illustrating socioeconomic, demographic, and environmental change in North Carolina coastal counties. This project provides a wide audience—including Sea Grant Extension Program staff, land-use and urban planners, educators, and local government officials—with a means to describe these changes and inform management and policy decisions. This pilot project focuses on North Carolina coastal counties, but has broader applicability to other coastal states. The project is a collaborative effort among the Center, the North Carolina Sea Grant Extension Program, and a group of coastal planners, resource management professionals, and educators.

Southeast Coast and Ocean Margin Program (SEACOM)—2002, 2003

The Center is leading an effort to enhance understanding of the significant natural resources in the South Atlantic Bight, a region extending from Cape Hatteras, North Carolina, to Cape Canaveral, Florida, out to the edge of the continental margin. The program is investigating significant natural resource areas, compiling this information into a spatial data framework, and working to inform and educate the public about the importance of discovery and management of these resources. The long-term goal is to provide an information foundation that allows managers to maintain economic vitality in the region while sustaining natural resources for future generations.

Topographic Change Mapping—1996 to 2000

www.csc.noaa.gov/lidar/

High-resolution Light Detection and Ranging (LIDAR) measurements of coastal beach topography were made during 1996, 1997, 1998, 1999, and 2000. These measurements can be used for beach change studies and are available to the public. These data include measurements before and after Hurricanes Dennis and Floyd.